

**IN THE UNITED STATES PATENT AND TRADEMARK OFFICE**

In re Application of:  
**Lorraine Elisabeth Pena et al.**

Confirmation No.: **5718**

Serial No.: **09/634,399**

Group Art Unit: **1617**

Filing Date: **August 9, 2000**

Examiner: **Shobha Kantamneni**

**For: NOVEL COMPOSITIONS OF MINOXIDIL**

Commissioner for Patents  
P.O. Box 1450  
Alexandria, VA 22313-1450

Sir:

**APPELLANTS' REPLY BRIEF PURSUANT TO 37 C.F.R. § 41.41**

Appellants submit this Reply in response to the Examiner's Answer dated November 15, 2006 in connection with the above-identified application.

As discussed in detail below, the rejections under 35 U.S.C. § 103 are improper and should be withdrawn.

**I. The Examiner's Answer Fails To Demonstrate That Any Claimed Invention Was Obvious Based On Preuilh, Ewers and/or Pena Alone or in Combination With Additional Secondary References**

The Examiner has not established that the subject matter defined in any of Claims 1, 5 to 8, 10, 13 to 19, 21, 22, 30, 35, 62, 66, 68, 70 to 75, 111, 115, 123 to 131 and 133 is unpatentable as being obvious based on the combined disclosures of Preuilh et al., U.S. Patent No. 6,106,848 ("Preuilh"), Ewers et al., abstract of DE 19613698 ("Ewers") and Pena, U.S. Patent No. 5,225,189 ("Pena"), alone or in combination with various secondary references.

It is well settled that the burden of establishing a prima facie case of obviousness resides with the Patent & Trademark Office. *In re Piasecki*, 223 USPQ 785, 787 (Fed. Circ.

1984). To establish a *prima facie* case of obviousness, three requirements must be satisfied: first, there must be some suggestion or motivation to modify the reference or to combine the reference teachings; second, there must be a reasonable expectation of success for achieving the claimed invention and its particular results; and, third, the prior art references must teach or suggest all the claim limitations. *See In re Vaeck*, 20 USPQ2d 1438 (Fed. Cir. 1991).

Appellants submit that a *prima facie* case of obviousness has not been proven here since the Examiner's Answer fails to establish, *inter alia*, a reasonable expectation of success that would have motivated an ordinarily skilled artisan to modify the teachings of Preuilh in an effort to arrive at single phase gels comprising from about 5% to about 8% minoxidil as described and claimed in the present application. As discussed in detail in previous submissions, Preuilh is directed to multiphasic oil-in-water emulsions rather than single-phase gels as defined in the present claims. Preuilh broadly states that the disclosed emulsions comprise from 0.0001% to 20% by weight of active agent, although this broad disclosure is qualified by the statement that the actual amount employed will depend on the active agent under consideration. Furthermore, even though modafinil is identified in a laundry list of a potentially vast number of active agents, Preuilh contains absolutely no information that would guide or motivate a person of ordinary skill in the art to select modafinil from among this vast number of active agents. Certainly there is no disclosure in Preuilh that would have motivated a person of ordinary skill in the art to prepare single phase gels containing from about 5% to about 8% minoxidil, this being the subject of Appellants' claims.

The Examiner attempts to make out a *prima facie* case of obviousness by combining Preuilh with Ewers and Pena. Ewers is directed to the transdermal delivery of a specific estrogen derivative that can be applied as a "TTS (*i.e.*, a transdermal therapeutic system), an

emulsion gel, a single phase gel or a spray” and Pena is directed to single-phase gels comprising 0.001 to 3% minoxidil. In asserting that an ordinarily skilled artisan would seek to formulate the Preuilh multiphasic emulsions as single-phase gels in view of Ewers and Pena, the Examiner states the following.

It would have been obvious to one of ordinary skill in the art at the time the invention was made to teach the emulsions of Preuilh et al. as single-phase gels because Ewers et al. teach that gelled emulsions, such as those taught by Preuilh et al., and single-phase gels are interchangeable forms for transdermal application of a composition and Pena teach minoxidil formulations, similar to those taught by Preuilh et al., in single-phase formulations. Thus a person of ordinary skill in the art at the time of the invention would have been motivated to formulate the compositions of Preuilh et al. in the form of single-phase gels because of the expectation of achieving a pharmaceutically acceptable carrier for minoxidil that is easily handled and can be uniformly spread over the skin.

*See* Examiner’s Answer, pages 5-6. The Examiner has again employed conclusory reasoning to support the assertion of obviousness. As Appellants have previously discussed in detail, there is no disclosure or suggestion in Ewers of minoxidil or related compounds, nor does Ewers state or imply that the different types of transdermal formulations described therein are interchangeable delivery vehicles for any and all pharmaceuticals, including minoxidil or any of the other vast number of active agents described in Preuilh. Nor has the Examiner adequately explained why an artisan seeking to prepare a hair restorative composition in the form of a single-phase gel containing minoxidil would seek out or even consider as relevant Ewers, which is directed to compositions for treating menopausal symptoms or osteoporosis, or for use as a contraceptive.

Moreover, the Examiner has not accorded proper weight to the objective evidence of patentability that was submitted to the Patent Office in the form of Dr. Pena’s Rule 132 Declarations dated October 11, 2004 and April 11, 2005. This objective evidence included,

*inter alia*, the results of comparative test work relating to the Preuilh patent. This test work establishes that the teachings in Preuilh do not provide a stable single-phase gel composition containing from about 5% to about 8% minoxidil. Since Preuilh is directed to multiphase emulsions rather than single-phase gels, and in view of the lack of stability encountered with Preuilh's compositions containing higher concentrations of modafinil, Dr. Pena concludes that an ordinarily skilled artisan would not consider Preuilh as relevant to the presently claimed invention.

Faced with this clear and unequivocal test work, the Examiner nonetheless repeats the conclusory assertion that "Preuilh teaches stable compositions comprising 0.0001% to 20% of active agent such as minoxidil" and that "discovering optimizing or workable parameters to obtain stable composition involves only routine skill in the art." Examiner's Answer, page 10. It is anomalous for the Examiner to conclude on the one hand, without any substantiating evidence, that Preuilh teaches stable compositions containing from about 5% to about 8% minoxidil, while on the other hand disregarding as "non-optimized" the results of Appellants' test work which demonstrates that this is simply not the case.

In addition to disregarding Dr. Pena's test work and related analysis of Preuilh, the Examiner has also disregarded Dr. Pena's analysis of Ewers. In this regard, Dr. Pena states in her Declarations, *inter alia*, that an ordinarily skilled artisan seeking to prepare a hair restorative composition would not be motivated to consult Ewers, nor would the skilled artisan even consider Ewers as being relevant to the presently claimed invention.

In rendering the obviousness rejection, the Examiner has characterized the Pena patent as teaching "0 to 5 % minoxidil containing single phase gels that are pharmaceutically elegant." *See* Examiner's Answer, page 5 (emphasis in original). This statement represents a mischaracterization of the teachings in Pena, and further indicates that the Examiner has

disregarded the teachings in the present application regarding the cited prior art, and the failure of this art to enable the preparation of single-phase gels containing higher concentrations of minoxidil. With regard to the statement being a mischaracterization, Pena does not teach single-phase gels containing from 0 to 5% minoxidil. Instead, Pena is directed to single-phase gels of minoxidil containing 0.001 to 3% minoxidil (column 1, line 44), and describes exemplary single-phase gels containing 1%, 2% and 3% minoxidil (Examples 1 and 2 at column 4, line 31 to column 5, line 35).<sup>1</sup>

With regard to the failure to properly consider the teachings in the present application, the Background section describes difficulties encountered in formulating single-phase gels containing higher concentrations of modafinil (page 2, lines 14 to 24). Objective evidence detailing these difficulties is provided in Example IV in the present application, in which Appellants demonstrate that Pena fails to enable the preparation of single-phase gels containing greater than 3% minoxidil. Accordingly, even if Ewers is found to provide proper motivation to combine Preuilh and Pena, which is submitted is not the case, the combined teachings still fail to teach how to make Appellant's invention, *i.e.*, single-phase gels containing from about 5% to about 8% minoxidil. The combined teachings of the cited prior art therefore fail to place the present invention in the public's possession. Despite this, the Examiner has stated the following.

This argument is not persuasive because it is not commensurate in scope with the instant claims, which are directed to the composition and not the process of making. Further, Pena need not describe or teach how to make such 5% minoxidil gel because the rejection was based on combination of references, and Pena's reference was used to show that minoxidil containing compositions can be in the form of single-phase gel.

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<sup>1</sup> Pena does teach the use of "greater than 0 to 5% on a weight-to-weight basis" of minoxidil in connection with the preparation of one part of a gel composition which is formulated from three separately prepared parts (column 3, line 18 et seq.). Accordingly, combining the minoxidil-containing part with the remaining parts necessarily provides a gel containing less than 5% by weight minoxidil.

Examiner's Answer, pages 12-13. This assertion basically represents a restatement of the problem addressed by Appellants (*i.e.*, the preparation of pharmaceutically elegant compositions in the form of single-phase gels containing higher concentrations of minoxidil) without proper consideration of Appellants' disclosure or submitted information which shows that the cited prior art does not afford such compositions. It is axiomatic that a prior art reference must teach how to make what it discloses. *In re Hoeksema*, 158 USPQ 596, 600-01 (CCPA 1968). Accordingly, the fact that Appellants are claiming compositions rather than methods of their preparation is immaterial to the present obviousness inquiry.

Of course Pena is directed to minoxidil-containing compositions in the form of single-phase gels. However, as shown by Appellants, Pena fails to enable the preparation of single-phase gels containing concentrations of minoxidil as defined in Appellants' claims. While Pena teaches parameters that may be relevant to the preparation of single-phase gels, as stated by the Examiner, nowhere does Pena teach or suggest Appellants' methods for obtaining such gels containing higher concentrations of modafinil including, for example, by using thickening agents in the form of crosslinked copolymers of acrylic acid (*i.e.*, non-carbomeric polymers).<sup>2</sup>

Preuilh is directed to fundamentally different compositions in the form of multi-phase emulsions, and provides no teaching or suggestion regarding the preparation of single-phase gels. Although non-carbomeric polymers may be employed in the disclosed compositions, Preuilh teaches their use as emulsifying agents in the preparation of multi-phasic emulsions. There is no disclosure or suggestion in Preuilh of the use of non-carbomeric polymers as thickening agents in the preparation of single-phase gels.

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<sup>2</sup> As discussed previously, Pena teaches the use of thickening agents in the form of crosslinked homopolymers of acrylic acid (*i.e.*, carbomeric polymers). Appellants have shown in Example IV in the present application that such crosslinked homopolymers fail to provide stable single-phase gels containing greater than 3% minoxidil.

What the Examiner has in essence done here is pick and choose from the different and unrelated disclosures in Preuilh, Ewers and Pena to create, *ex post facto*, an obviousness rejection. This amounts to impermissible hindsight reconstruction. *In re Warner*, 154 USPQ 173, 178 (CCPA 1967); *In re Fritch*, 23 USPQ2d 1780 (Fed. Cir. 1992); *In re Fine*, 5 USPQ2d 1596 (Fed. Cir. 1988); *In re Deuel*, 34 USPQ2d 1210, 1216 (Fed Cir. 1995).<sup>3</sup>

The remaining secondary references are even more remote to the present claims than the other cited documents and, therefore, the present claims define over these documents *a fortiori*.

### Conclusion

For the foregoing reasons, and those set forth in the Appeal Brief, Appellants request that this patent application be remanded to the Examiner with an instruction to both withdraw the outstanding rejections and to allow the appealed claims.

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<sup>3</sup> It is well-established law that rejections based on 35 U.S.C. §103 must rest on a factual basis, and these facts must be interpreted without hindsight reconstruction of the invention from the prior art. *In re Warner*, 154 USPQ 173, 178 (CCPA 1967). Thus it is impermissible for an Examiner, in proffering a 35 U.S.C. §103 rejection, to use the claimed invention as an instruction manual or “template” to piece together the teachings of the prior art to render the claimed invention obvious. *In re Fritch*, 23 USPQ2d 1780 (Fed. Cir. 1992); *In re Fine*, 5 USPQ2d 1596 (Fed. Cir. 1988).